FE155 WIRE DRAG

Diagram No. 1001-3 & 1235

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

DESCRIPTIVE REPORT

(HYDROGRAPHIC)

Type of Survey ... Wire Drag

Field No. ... PBS-4655WD

Office No. ... FE-155WD (1955-56)

LOCALITY

State ... North Carolina

General Locality ... Atlantic Ocean-Onslow Bay

Locality ... N.E. .. of . Cape .. Fear

1955-56

CHIEF OF PARTY
J.C. Mathisson

LIBRARY & ARCHIVES

DATE ... June .13, 1957

☆ U.S. GOV. PRINTING OFFICE: 1976-669-441

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as;

FE No.14, 1957WD

FENO.14 1957

Diag. Cht. Nos. 1001-3 & 1235

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey WIRE DRAG WRECK INVESTIGATION

Field No. PBS-4655WD Office No.F.E.No.14

LOCALITY

State NORTH CAROLINA

General locality ATLANTIC OCEAN = ONSLOW BAY

Locality N.E. OF CAPE FEAR

194/ 55-56

CHIEF OF PARTY

JOHN C. MATHISSON

LIBRARY & ARCHIVES

JUN 1 3 1957

DATE

B-1870-1 (1)

NA11

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER No. F. E. No. 14 (1957) WD

Field No. PBS-4655WD

State		***************************************	ATLAI	TIC (CEAN				
General local	ity		ONSLO	OW BA	<u> </u>	·			
Locality	-		N.E.	OF CA	PE FEA	R			
Scale	1:40,	000		D	ate of sur	vey <u>11</u>	Oct. 1955	-7 Sept.	1956
Instructions of	lated	2	8 Jar	wary	1955			·	
Vessel		PARKER	BOW	EN &	STIRNI	*************	·····		
Chief of party	/	JOH	N.C.	MATHI	SSON				
Surveyed by	J.C. R.C.	MATHISSO DARLING,	Й, Н. D.G.	J. SI RUSI	EABORG, IFORD &	K.S. W.R.	ULM, J.R. KACHEL	PLAGGMI	ER,
Soundings tak									8
Fathograms s	caled by			FIELI	PARTY		· · · · · · · · · · · · · · · · · · ·		
Fathograms c	hecked by			FIELI	PARTY				
Protracted by				FIELI	PARTY				
Drag stri S XXXXXXX XX	KXIXX KX Ps 1nk	ed by:		Field	Party				
REMARKS:	+	*****************	***************************************			·			
									•
					-				
	-								
1	**							***	

Field Notes for Descriptive Reports to Accompany 1955 Wire Drag and Hydrographic Sheets - Ships PARKER, BOWEN, STIRNI - Cdr. John C. Mathisson, Chief of Party

A. PROJECT - Original instructions for Project No. CS-377 addressed to the Commanding Officer of the Ships PARKER, BOWEN, and STIRNI are dated 28 January 1955. Project number was later changed to 1377.

B. SURVEY LIMITS AND BATES - The following sheets are included in the 1955

seasons work of the Ships PARKER, BOWEN, and STIRNI.
(a.) Hydrography and Wire Drag: PBS 2255 (H-8247) Cape Lookout Shoals -North End

> PBS 2355 (H-8248) Cape Lookout Shoals -South End

(b.) Hydrography: PBS 2455 (H-8249) Diamond Shoals

PBS-4155 W.D. South of Cape Lookout, N. C. (c.) Wire Drag: PBS-4255 W.D. East of Cape Lookout, N.C.

PBS-4355 W.D. Off Ocracoke Inlet, N.C.

PBS-4455 W.D. Cape Hatteras, N.C.

PBS-4555 W.D. Northeast of Cape Hatterss, N.C. PBS-4655 W.D. Offshore - East of Cape Fear, N.C. . PBS-4755 W.D. Inshore - East of Cape Fear, N.C.

(d.) Reconnaissance Hydrography: PBS-4855 - Offshore - Southeast of Cape Lookout, N.C.

No work was accomplished on sheet PBS-2155 W.D. - Northwest of Cape Henry, Virginoa.

A special hydrographic investigation was made in Core Sound, north of Ocracoke Inlet. It is the subject of a special report previously submitted.

RE 10(1957) A special wire drag investigation was made in the Pasquotank River, Virginia. This is also the subject of a special report already forwarded.

Plotting of the wire drag boat sheets was not completed in the field. Shoalest hangs and deepest clearances on wrecks will have to be determined after plotting has been completed. Wreck letters submitted during the field season give preliminary values based on predicted tides and approximate lifts.

A comparison of boat sheet depths with charted depths in the case of hydrographic sheets serves no useful purpose at this time. The comparison should be made after the completion of the smooth sheets.

SHORAN CORRECTIONS:

The shoran equipment in all three vessels was calibrated at frequent intervals during the season. Three "Dinoplex" calibration sheets were used. One each in the vicinities of Cape Hatteras, Cape Lookout, and Cape Fear. Calibrations were taken each time the shoran stations were moved and at other intervals when thought necessary.

Once a shoran correction was determined, this correction was applied to all shoran readings until a new calabration was taken. The new connection was then applied to all subsequent shoran readings. Zero checks were made at the time of each calibration and at frequent intervals while using shoran control. No abnormal deviation from the zero set was found.

A tabulation of the shoran corrections used for the three ships follows: Shoran corrections were rounded off to the nearest 0.005 mile when entering corrections in volumes.

Tabulation of Shoran Calibrations - STIRNI:

Date	Recorded in Vol. Sheet No.	Monitor No.	Sta. 36	Corr'n	Sta. 37	Corr'n
/ 26-55	2255	1	SAM	-0.021	KNOL	<i>4</i> 0.012
>-9-55	8155	1	San	<i>4</i> 0.001	KNOL	40.010
5-25-55	8155	1	Sam	<i>4</i> 0.002	KNOL	-0.009
6-3-55	4455	1	CLUB	<i>4</i> 0.007	PEA	-0.045
6-6-55	4455	2	CLUB	<i>4</i> 0.008	PEA	-0.016
7-22-55	2455	2	CLUB	≠0.061 (r)	PEA	≠0.021 (r)
	4355	2	CLUB	-0.031	LOLA	-0.029
7-29-55	4255.	2	Sam	40.004	LOLA	-0.019
8-31-55	4155	2	DEY	-0.040	KNCL	-0.030
9-26-55 10-20-55	4755	2	SERF	-0.008	OAK	-0.034
		PARKER	.1			
•	•	1	SAM	-0.003	KNOL	-0.026
	07.55	2	SAM	-0.016	KNOL	-0.008
4-18-55	2355	ĩ	SAM	-0.009	KNCL	-0.011
4-27-55	2355	1	SAM	-0.008	KNCL	-0.016
5-25-55	4155	î	CLUB	-0.020	PEA	-0.055
5-3-55	2455	2	CLUB	-0.001	PEA	-0.032
6-6-55	4555	2	CLUB	-0.023	PEA	-0.032
7-22-55	4455	2	CLUB	-0.004	LOLA	-0.034
7-28-55	44.55	2	SAM	-0.001	LOLA	-0.042
8-31-55	4255		DEY	-0.015	KNOL	-0.043
9-28-55	4155	· 2 2	SURF	-0.061	CAK	-0.022
10-18-55	4755	2	Som	-0100-		

Tabulation of Shoran Corrections Entered in Volumes - STIRNI:

•	Sta. 36	Sta. 37
Begin season thru 5-8-55 5-9-55 - 6-1-55 6-2-55 - 6-5-55 6-6-55 - 7-28-55 7-29-55 - 8-5-55 8-6-55 - 9-25-55 9-26-55 - 10-5-55 10-6-55 - Season End	-0.020 (SAH)(Set #1) 0.000 (SAM) " #0.005 (CLUB) " #0.010 (CLUB) 5\frac{1}{2} \text{2} -0.030 (CLUB) " #0.005 (SAM) " -0.040 (DEY) " -0.010 (SURF) "	#0.010 (KNOL (Set #1) #0.010 (KNOL) " -0.045 (PEA) " -0.015 (PEA) 50 2 -0.030 (LOLA) " -0.020 (LOLA) " -0.030 (KNOL) " -0.035 (OAK) "
4-18-55 0900 - 1130 1401 - 1520 1520 - 1650 1650 - and 4-19-55 - 5-2-55 at 10:55 5-2-55 1055-1115	PARKER: -0.005 (SAM)(Set #1) -0.015 (SAM)(Set #2) -0.005 (SAM)(Set #1) -0.015 (SAM)(Set #2) -0.005 (SAM)(Set #1) -0.015 (SAM)(Set #2)	-0.015 (KNOL)(Set #1) -0.010 (KNOL)(Set #2) -0.015 (KNOL)(Set #1) -0.010 (KNOL)(Set #2)
1115 - end 4-19-55 - 1600 4-26-55 4-26-55 1600 - 1650 22 1650 - end	_0.005 (SAM)(Set #1)	-0.015(KNOL)(Set #1) -0.010 (KNOL)(Set #2) -0.015 (KNOL) Set #7

	STA. 36 -0.005 (SAM)(Set #1)	STA. 37
5-3-55 - 5-25-55	-0.005 (SAM)(Set #1)	
4-27-55 - 5-25-55		0.015 (KNOL)(Set #1)
5-31-55 - 6-5-55 1300	-0.020 (CLUB)(Set #1)	
6-5-55 1300-1945	-0.015 (CLUB)(Set #2)	
5-31-55 - 6-7-55		0.045 (PEA)(Set #1)
6-13-55 - 7-23-55		0.040 (PEA)(Set #2)
6-6-55 - 6-14-55 1400	-0.015 (CLUB)(Set #2)	
6-14-55 1400 to end	-0.020 (CLUB)(Set #1)	
7-26-55 - 9-2-55	-C).040 (LOLA)(Set #2)
15-55 - 8-4-55	-0.015 (CLUB)(Set #2)	·
9-7-55 - 10-5-55		0.045 (KNOL)(Set #2)
8-8-55 - 9-18-55	0.000 (SAH)(Set #2)	
9-21-55 - 10-4-55	-0.015 (DEY)(Set #2)	
10-5-55 - 10-27-55	-0.060 (SURF)(Set #2)	
10-6-55 - 10-25-55	——————————————————————————————————————	0.020 (OAK)(Set #2)
8,12,&28 July 1955	STIRNI as Shore Station (STIR I,	
·	STIR II, STIR III) -0	.020
	The Control of the Co	
4-18-55 0900 - 1130	BOWEN:	000 (8001)(0 1 80)
1130 - 1345	-0.020 (SAM)(Set #1) #0	0.005 (KNOL)(Set #1)
1345 - End	-0.015 (SAM)(Set #2) #0	0.005 (KNOL)(Set #2)
- 1-		0.005 (KNOL)(Set #1)
4-19-55 - 4-20-55 4-21-55 - 5-2-55 1055	-0.020 (SAM)(Set #1) #0	0.005 (KNOL)(Set #1)
	≠0.010 (SAE)(Set #1)	
1055–1115	40.005 (SAM)(Set #2)	•
5-2-55 1115-end 4-19-55 - 4-26-55 at 1600	≠0.010 (SAM)(Set #1)	005 (800) \(0 \)
1600 - 1650		0.005 (KNOL)(Set #1)
4-26-55 1650 - end		0.005 (KNOL)(Set #2)
4-27-55 - 5-25-55		.005 (KNOL)(Set #1)
5-3-55 - 5-25-55	<pre> /0.010 (SAM)(Set #1) </pre>	OOD (MOL)(Set #1)
5-31-55 - 1300 6-5-55	-0.010 (GLUB)(Set #1)	
6-5-55 - 1300 - end	-0.010 (CLUB)(Set #1)	`
5-31-55 - 6-7-55		.O40 (PEA)(Set #1)
6-13-55 - 7-23-55		
	-0.010 (CLUB(Set #2)	.015 (PEA)(Set #2)
	-0.010 (CLUB(Set #2) -0.010 (CLUB)(Set #1)	
6-15-55 - 8-4-55	-0.010 (CLUB)(Set #1)	
7-26-55 - 9-2-55		ODE (ICOL)(CAL BO)
	≠0.010 (SAM) (Set #2)	.025 (LOLA)(Set #2)
9-7-55 - 10-14-55		.015 (KNOL)(Set #2)
9-21-55 - 10-4-55	-0.005 (DEY)(Set #2)	OLD (ABOL)(Set #2)
10-5-55 - 10-27-55		.015 (OAK)(Set #2)
		.ULD (URR)(DEC #2)

Settlement and Squat Corrections:

The settlement and squat corrections were the same as used in previous years for all three ships. The correction depending upon the speed and the water depth. Tabulation of corrections follows:

(Next Page)

SETTLEMENT & SQUAT CORRECTIONS (ALL /)

PBS

SPEED (RPM)	CORRECTION (FEET)	FROM DEPTH TO DEPTH (FEET)
400	0,2	all depths
450	0.2	all depths
500	0.2	all depths
600	0.4 0.2	6.0 to 14.5 15.0 and over
650	0.4	11.5 to 17.0 17.5 and over
700	0.6 0.4 0.2	12.5 to 15.0 15.5 to 19.5 20.0 and over
750	0.8 0.6 0.4 0.2 0.4	12.5 to 14.0 14.5 to 16.5 17.0 to 21.5 22.0 to 31.5 32.0 and over
800	1.0 0.8 0.6 0.4	12.5 to 13.0 13.5 to 15.5 16.0 to 19.0 19.5 and over
850	1.0 0.8 0.6 0.4	12.5 to 13.5 14.0 to 16.5 17.0 to 22.5 23.0 and over
900	1.0 0.8 0.6 0.4	12.5 to 14.5 15.0 to 20.5 21.0 to 34.0 34.5 and over
1000	1.0 0.8 0.6	6.0 to 21.5 22.0 to 31.5 32.0 and over

TIDES:

Final tides were either furnished by the Washington Office for the periods needed, or were tabulated in the field from observed tides.

Tide reducers for the Cape Hatters Area were based on tide staff readings for Hatters Inlet (Outside).

Tide reducers for the Cape Lookout Area were based on the portable gage installed at Lookout Bight.

Tide reducers for the Cape Fear Area were interplated by the Washington Office, Division of Tides and Currents.

All tide reducers were referred to the plane of mean low water.

On the hydrographic surveys, tide reducers were entered to 0.2 ft. On the wire drag surveys, tide reducers were intered to 0.5 feet.

ECHO CORRECTIONS:

The echo corrections for all three ships were determined by bar checks at intervals during the season. Standard methods were used and the leadlines on the bars were checked and found to be the correct length so no correction was necessary to leadline lengths.

Bar checks were not taken as often as would be expected for a hydrographic party due to the nature of operations and lack of suitable weather along the open coast. However, sufficient tests were made to provide accurate corrections for the various fathometers and scales.

The Edo fathometer on the STIRNI was not used for hydrographic work, but was tested and separate reports submitted to the Washington Office on 30 September 1955 and 20 June 1956.

On the BOWEN and STIRNI fathometers No. 160SPX, 100S and 161SPX, the corrections on the A scale varied with the depths and were so entered. On the PARKER fathometer No. 1175, the A scale corrections were uniform regardless of depth so one correction for the entire A scale was determined and used. On the B, C, and D scales of all fathometers, a single correction was determined for each scale.

On the PARKER, fathometer No. 1175 no D scale correction could be determined as no return could be gotten from the bar at that depth in D scale. On the PARKER, the D scale was used only for a few soundings during the following periods:

6 June 1955 Sheet PBS-4455 Vol. I Position 8 on B day 12 July 1955 Sheet PBS-4455 Vol. II Pos. 46 to 49 on D day 12 July 1955 Sheet PBS-4455 Vol. II Pos. 57 to 62 on D day On 11 June 1956, a bar check was obtained under ideal conditions and one check on the D scale at 110 feet was obtained. The correction was -2.0 feet. It is suggested that this correction be used in the above few positions. These positions had no correction entered in the Volumes at the time the volumes were transferred to the Norfolk District Office.

A tabulation of the corrections applied to the fathometer soundings follows:

```
A. PARKER
                Fath. No. 1175 Type 808
                A scale -0.2 feet
                B scale
                          -0.6 feet
                C scale -0.2 feet
                D scale See Report *
B. BOWEN
                Fath. No. 160SPX Type 808
                A scale -0.2 feet. 0 to 16.9 ft.
                           0.0 ft.
                                       to 27.2 ft.
                          10.2 ft.
                                       to 33.8 ft.
                          10.4 st.
                                       to 39.4 ft.
                          40.6 n.
                                       to 45.2 ft.
                          ≠0.8 ft.
                                       to 50.9 ft.
                          A1.0 ft.
                                       to 55.0 ft.
                B scale fl.5 ft.
                                       to 57.8 ft.
                          12.0 ft.
                                       to 90.0 ft.
                C scale /2.5 ft.
                D scale \neq 2.5 ft.
                Fath. No. 1005 Type 808
                A scale 0.0 ft.
                                       to 22.0 ft.
                        10.2 ft.
                                       to 35.5 ft.
                         10.4 st.
                                       to 48.9 ft.
                        40.6 ft.
                                       to 55.0 ft.
                B scale /1.0
                C scale /1.5
C. STIRNI
                Fath. No. 161 SPX
                                    Type 808
                A scale 0.0 ft.
                                    0 to 13.5 ft.
                         ≠0.2 ft.
                                       to 24.0 ft.
                       10.4 st.
                                       to 33.0 ft.
                       10.6 R.
                                       to 42.5 ft.
                       10.8 ft.
                                       to 49.0 st.
                       1.0 ft.
                                       to 55.0 ft.
                B scale 0.0 ft.
                C scale -2.5 ft.
```

D scale -4.5 ft.

PROCESSING OFFICE NOTES FOR

WIRE DRAG WRECK INVESTIGATION PBS-4655WD

GENERAL

This survey was forwarded to this Office with all records processed and the drag strips inked on the boat sheet.

The body of the descriptive report covers that part of the work accomplished during the 1955 field season. A report for the 1956 season has not been received.

Norfolk, Va. 7 June 1957

Respectfully submitted,

Hugh L. Proffitt Cartographer.

U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY

TIDE NOTE FOR HYDROGRAPHIC SHEET

Chart Division: R. H. Carstens

2 July 1957

Plane of reference approved in 9 volumes of sounding records for

HYDROGRAPHIC SHEET F E No. 14 1957

Locality Cape Fear, N. C.

Chief of Party: J. C. Mathisson in 1955-1956

Plane of reference is mean low water, reading

2.0 ft. on tide staff at Wilmington Beach

14.7 ft. below B.M. 1 (1956)

Height of mean high water above plane of reference is 4.0 feet.

Condition of records satisfactory except as noted below:

Chief, Tides Branch

Comm-DC 34330

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. F.E.No.14 (1957) WD

Records accompanying survey:		•
Boat sheets; sounding vols	ire drag	g vols;
bomb vols; graphic recorder rolls	Envelo	ppes
special reports, etcl-Descriptive report	and 1	Overlay, Sonar
.Search	• • • • • •	• • • • • • • • • • • • •
The following statistics will be submitted wirepher's report on the sheet:	th the o	cartog- WD = 383
Number of positions on sheet		5.493: 99
Number of positions checked		54
Number of positions revised		
Number of soundings revised (refers to depth only)		/
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred	·	0
Topographic details	Time	Q
Junctions	Time	
Verification of soundings from graphic record	Time	3
Verification by	50	Date
Reviewed by Time	7	Date ////////////////////////////////////

Review of Field Examination No. 14, 1957

The field examination was made in compliance with Instructions for Project CS 377 (later changed to 1377) dated 28 January 1955.

The purpose of the examination was to verify or disprove the existence of wrecks 460, 462, 463, 468, 484, 485 and 488.

Wrecks 460, 462, 463, 468 and 485 were not found.

Wreck 484 (name unknown) was located in lat 33°51.96', long. 77°28.88'. It was hung by a wire-drag set to an effective depth of 22 ft. and was cleared by a wire-drag set to an effective depth of 16 ft. A sounding of 20 ft. was obtained on the wreck.

Wreck 488 (name unknown) was located in lat. 33°57.96', long. 77°01.86'. It was hung by a wire-drag set to an effective depth of 42 ft., and was cleared by a wire-drag set to an effective depth of 36 ft. A sounding of 38 ft. was obtained on the wreck.

Several sonar contacts were made on an object in lat. 33° 44.83', long 77°10.40', in depths of 114-116 ft. No soundings were obtained at the point of contact (see sheet Nos. 4 and 5). The area in the vicinity of the contacts was cleared by a wire-drag set to effective depths of 97-98 ft. It is, therefore, believed that the object contacted lies below the afore-mentioned effective wire-drag depths.

The results of the field examination are shown on the accompanying 4 sections of boat sheet and 1 paper tracing.

The work was applied to charts 1001, dated 10-8-56 and chart 1235, dated 9-24-56, from advance information of the field examination. The charted information is correct, except as follows:

The cleared depth over wreck 484 in lat. 33°51.96', long 77°28.88' charted as $19\frac{1}{2}$ ft. on chart 1235 and $3\frac{1}{4}$ fms. on chart 1001, from chart letter 837 (1955) was revised to 16 ft. during verification of the field examination.

There are no conflicts between the charted depths and the effective wire-drag depths of the field examination.

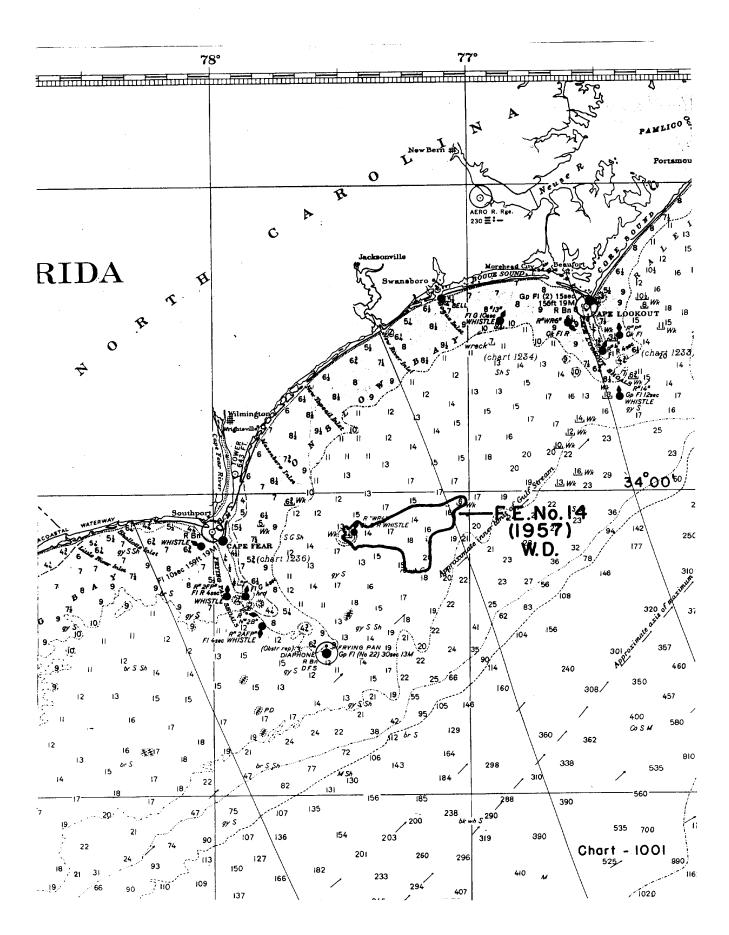
FE 14, 1957 - 2

The Descriptive Report adequately covers all other matters pertaining to the examination. No further discussion is considered necessary.

Reviewed by: I. M. Zeskind

Nov. 14, 1957

Inspected by: R. H. Carstens



NAUTICAL CHARTS BRANCH

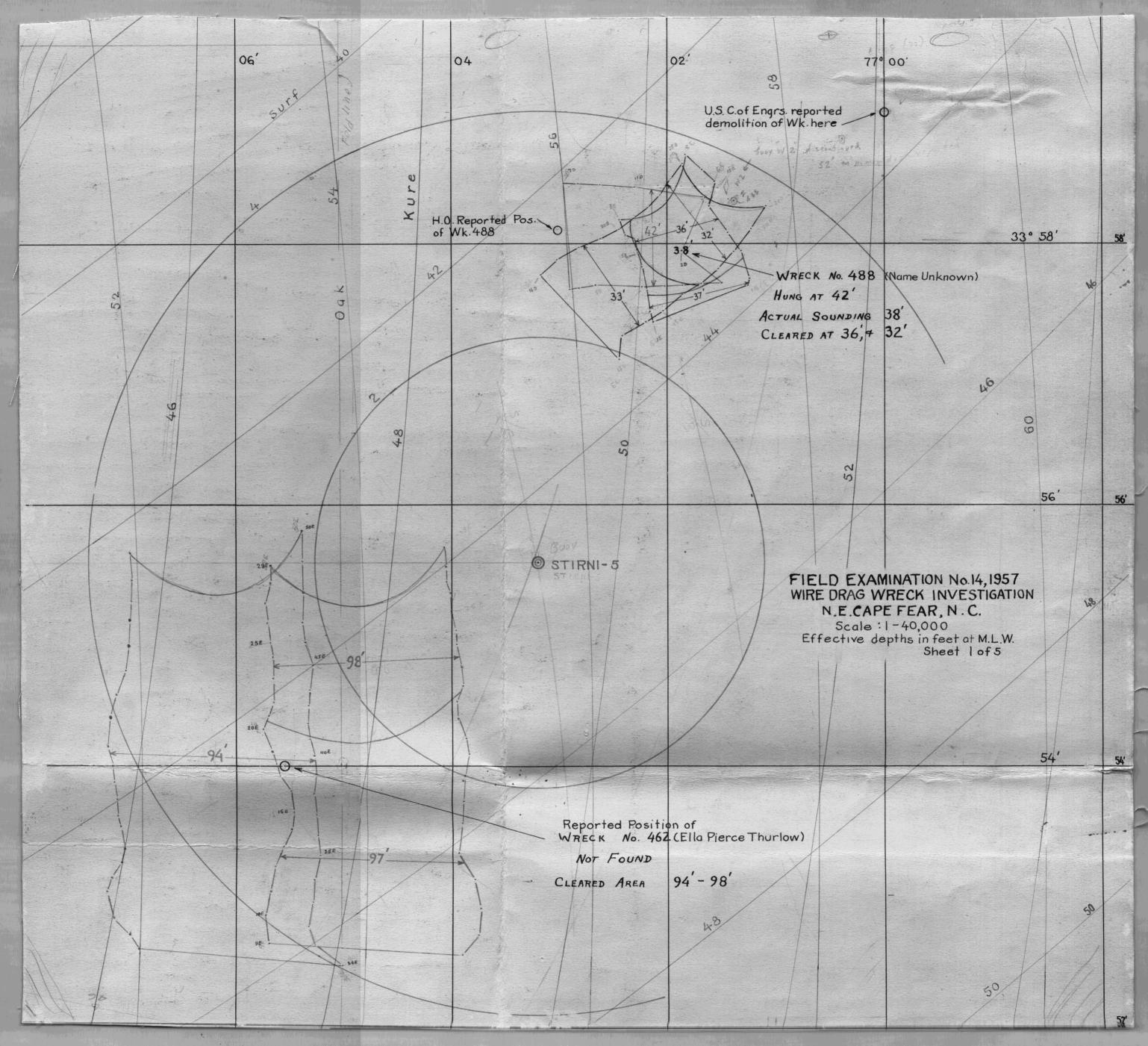
SURVEY NO. F.E. No. 14 (1957) WD

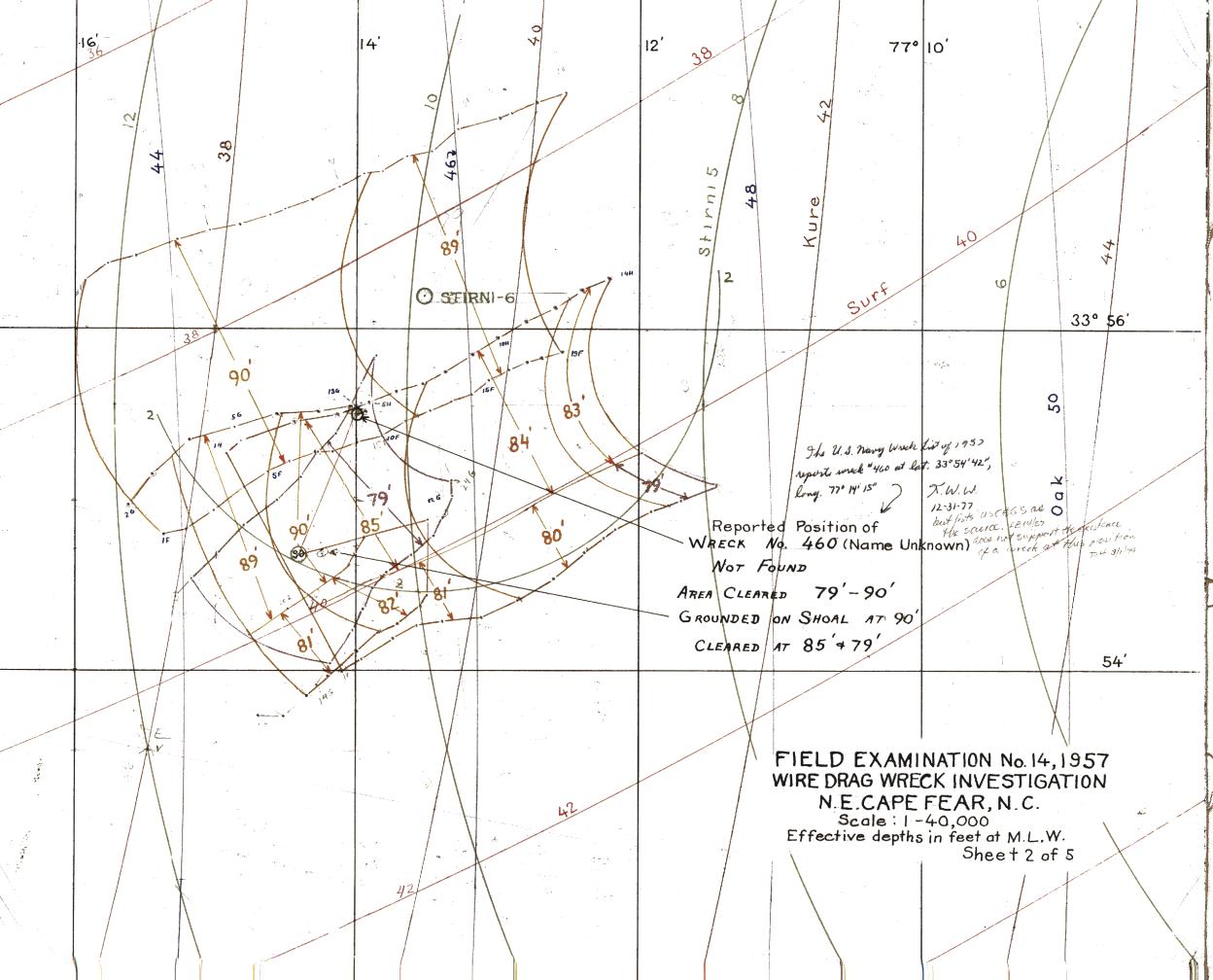
Record of Application to Charts

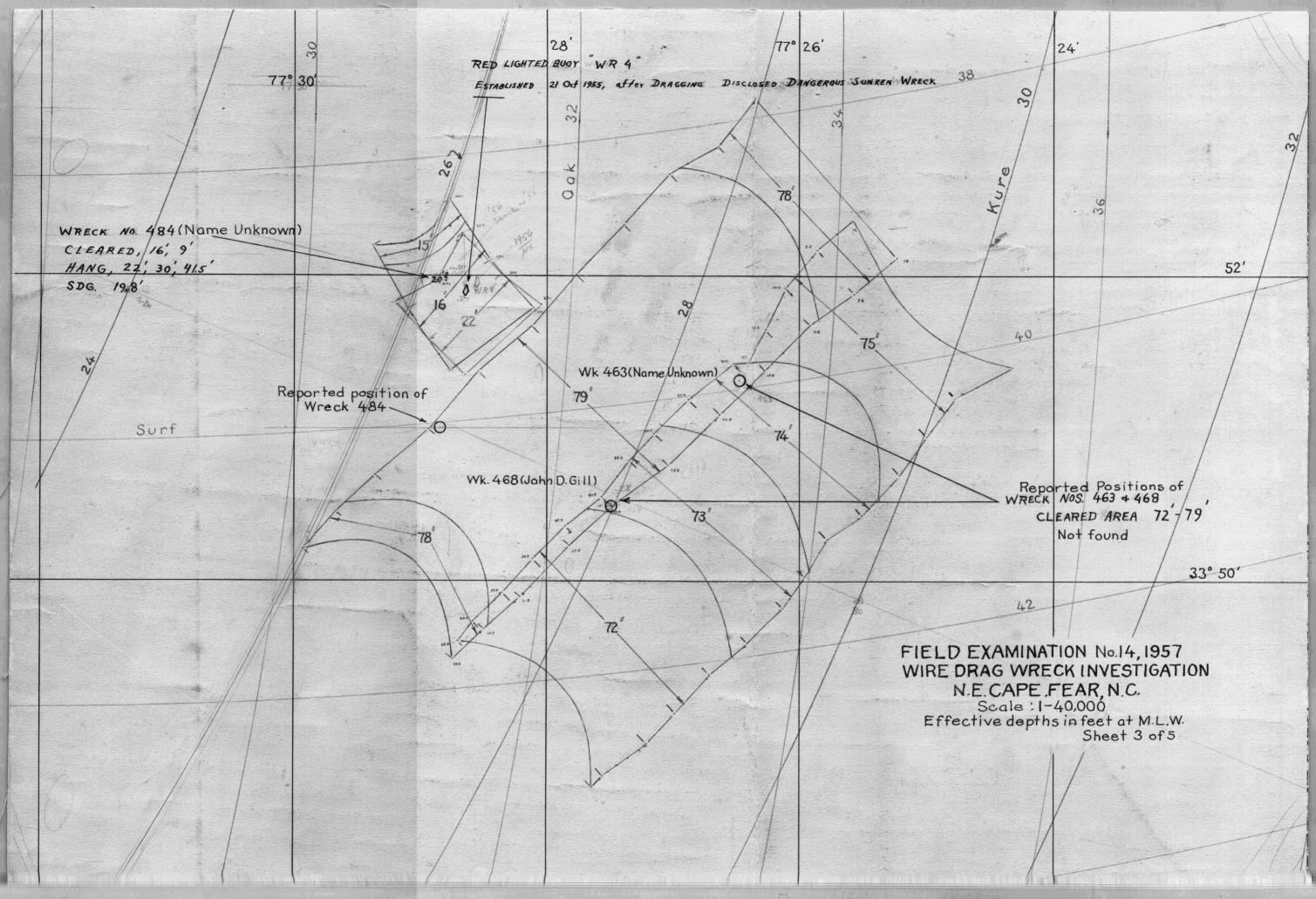
DATE	CHART	CARTOGRAPHER	REMARKS
7-11-57	1001	c.R. Wilman	Before After Verification and Review Examined Ne con.
1/11/58 8-1-57	1235	J. M. Albert	Refore After Verification and Review
2/4/58	1001		After Verification and Review Completely applied.
	•		Before After Verification and Review
3/7/58	1110	fam	Completely applied.
			Before After Verification and Review
			Before After Verification and Review
		•	Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
:	, ,		·
	ı,		

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.







	14'	12' 77° 10'	08' 33°48
O. X	of surf	Reported Position of WRECK No. 485 (Esso Nashville) NOT FOUND CLEARED AREA 95'-102' Excellent Sonar Contacts, No Sounding Obtained CLEARED 97'-98' (Contacts probably below effective wire-drag depths)	25
25J 101 28K 95	100' 99' 98' 97'	99' 97' 98' 52	46'
	O STIRNI-8	FIELD EXAMINATION No.14, 1957 WIRE DRAG WRECK INVESTIGATION N.E. CAPE FEAR, N.C. Scale: 1-40,000 Effective depths in feet at M.L.W. Sheet 4 of 5	5 ¹ 4

